

**ABSTRACT**

5 A method for removal of post reactive ion etch  
sidewall polymer rails on a Al/Cu metal line of a  
semiconductor or microelectronic composite structure  
comprising:

10 1) supplying a mixture of an etching gas and an  
acid neutralizing gas into a vacuum chamber in which  
said composite structure is supported to form a water  
soluble material of sidewall polymer rails left behind  
on the Al/Cu metal line from the RIE process; removing  
the water soluble material with deionized water; and  
removing photo-resist from said composite structure by  
either a water-only plasma process or a chemical down  
15 stream etching method; or

2) forming a water-only plasma process to strip  
the photo-resist layer of a semiconductor or micro-  
electronic composite structure previously subjected to  
a RIE process;

20 supplying a mixture of an etching gas and an acid  
neutralizing gas into a vacuum chamber on which said  
structure is supported to form a water soluble material  
of saidwall polymer rails left behind on the Al/Cu  
metal line from the RIE process; and

25 removing the water soluble material with deionized  
water.

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